CLAIMS

What is claimed is:

1. A miter saw comprising:

a base assembly;

a rotatable table rotatably connected to the base assembly and having a plane;

a saw assembly including a motor, and a blade disposed on an arbor, the arbor having a first gear meshing with an idler gear, which meshes in turn with a second gear driven by the motor; and

a pivot arm pivotally attached to the table and supporting the saw assembly.

2. The miter saw of Claim 1, wherein the second gear is driven by the motor via a belt.

3. A miter saw comprising:

a base assembly;

a rotatable table rotatably connected to the base assembly for rotating about a miter axis, the table having a plane;

a saw assembly including a motor, a blade disposed on an arbor, and an upper blade guard covering an upper part of the blade and the arbor; and

a pivot arm pivotally attached to the table and supporting the saw assembly, wherein the pivot arm is rotatably attached to the table so that the saw assembly can be beveled about a bevel axis leftwardly and rightwardly from a position where the blade is substantially perpendicular to the table plane;

wherein the maximum distance between the blade and the upper blade guard along the longitudinal axis of the arbor is about .00353 times the radius of the blade.

4. The miter saw of Claim 3, wherein the maximum distance between the blade and the upper blade guard is about 53.78mm for a twelve-inch blade.

5. The miter saw of Claim 3, further comprising a transmission means for transmitting power from the motor to the arbor.

6. The miter saw of Claim 5, wherein the motor has a longitudinal axis, and the distance between the motor longitudinal axis and the arbor longitudinal axis is shorter than length of the transmission means.

7. The miter saw of Claim 5, wherein the blade has two side edge planes, one of the side edge planes being closer than the other side edge plane to the transmission means.

8. The miter saw of Claim 7, wherein the bevel axis is substantially coplanar with the side edge plane closest to the transmission means.

9. The miter saw of Claim 7, wherein the miter axis is substantially coplanar with the side edge plane closest to the transmission means.

10. The miter saw of Claim 3, further comprising a workpiece support assembly slidably attached to the base assembly.

11. The miter saw of Claim 10, wherein the workpiece support assembly extends forwardly from the base assembly.

12. The miter saw of Claim 3, further comprising a fixed fence disposed on the base assembly, and a slidable fence disposed on the fixed fence.

13. The miter saw of Claim 12, wherein the slidable fence can be removed from the fixed fence.

14. The miter saw of Claim 12, wherein the fixed fence has a highest point, and the slidable fence has a portion below the highest point of the fixed fence.

15. The miter saw of Claim 12, wherein the table has a bevel scale for showing the bevel angle of the pivot arm.

16. The miter saw of Claim 15, further comprising a wall disposed between the bevel scale and the fixed fence for deflecting dust directed towards the bevel scale.

17. The miter saw of Claim 3, further comprising a screw for connecting the pivot arm to the table, wherein the screw has an inclined surface contacting an inclined surface of the pivot arm.

18. A miter saw comprising:

a base assembly;

a rotatable table rotatably connected to the base assembly for rotating about a miter axis, the table having a plane;

a saw assembly including a motor and a blade disposed on an arbor; and

a pivot arm pivotally attached to the table and supporting the saw assembly, wherein the pivot arm is rotatably attached to the table so that the saw assembly can be beveled about a bevel axis from a first bevel position where the blade is substantially perpendicular to the table plane; and

a first protrusion movably attached to the table movable between a first position contacting the pivot arm when beveled in a first direction and a second position not contacting the pivot arm when beveled in the first direction.

19. The miter saw of Claim 18, wherein the pivot arm can be beveled rightwardly and leftwardly from the first bevel position.

20. The miter saw of Claim 18, further comprising a second protrusion movably attached to the table movable between a first position contacting the pivot arm when beveled in a second direction and a second position not contacting the pivot arm when beveled in the second direction.

21. The miter saw of Claim 20, wherein the second protrusion is rotated between the first and second positions.

22. The miter saw of Claim 20, wherein the second protrusion is rotated about an axis substantially parallel to the miter axis between the first and second positions.

23. The miter saw of Claim 18, wherein the first protrusion is rotated between the first and second positions.

24. The miter saw of Claim 18, wherein the first protrusion is rotated about an axis substantially parallel to the miter axis between the first and second positions.